

# Work Order ID 110722

January-07-14 3:01:36 PM

\*110722\*

Page 1

Item ID: D3144-111 Accept \*N9000040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Doubler  
 Start Date: 1/07/14 Start Qty: 2.00 \*2\* Cust Item ID:  
 Required Date: 1/07/14 Req'd Qty: 2.00 \*2\* Customer:  
 Reference:

Approvals: Process Plan: MP MLC Date: 14/01/08 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
<b>Draw Nbr</b>	<b>Revision Nbr</b>								
D3144	Rev C								
100	FLOW WATER JET	0.00							
<b>*100*</b>									
Waterjet	<b>Memo</b>	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg D3144 Dwg Rev: <u>C</u> Prog Rev: <u>C</u> 2- Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
<b>*110*</b>									
QC	<b>Memo</b>	0.00							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
<b>*120*</b>									
QC	<b>Memo</b>	0.00							
Quality Control									

Ship  
 732

③ mm 14/27/18

③ mm 14/27/18

DAS  
 27  
 3-89  
 14/7/18

3

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Page 2

3-φ. 14-7-22

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

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**Work Order ID 110722**

January-07-14 3:01:36 PM

**\*110722\***

Page 3

Item ID: D3144-111

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Doubler

Start Date: 1/07/14

Start Qty: 2.00

**\*2\***

Cust Item ID:

Required Date: 1/07/14

Req'd Qty: 2.00

**\*2\***

Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

QC3- Inspect Part Finish

0.00

**\*160\***

QC

Memo

0.00

Quality Control

170

Identify as per dwg &amp; Stock Location: \_\_\_\_\_

0.00

**\*170\***

Packaging

Memo

0.00

Packaging

180

QC21- Final Inspection - Work Order Release

0.00

**\*180\***

QC

Memo

0.00

Quality Control

MF  
14-7-22

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Training									
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Unapproved									

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# Picklist Print

January-07-14 3:01:35 PM

Page 1

Work Order ID: 110722

Parent Item: D3144-111

Parent Item Name: Doubler

Start Date: 1/07/14

Required Date: 1/07/14

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP A04.11.29New issueKJ/RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.032 2024-T3 .032 sheet		Purchased	No			110	sf	370.9000	0.16	1		mm 1/6/18	

Location

Loc Qty

Loc Code

MAT022

370.9

121309

7

123574

14

124987

10

M127668

339.9

1.5

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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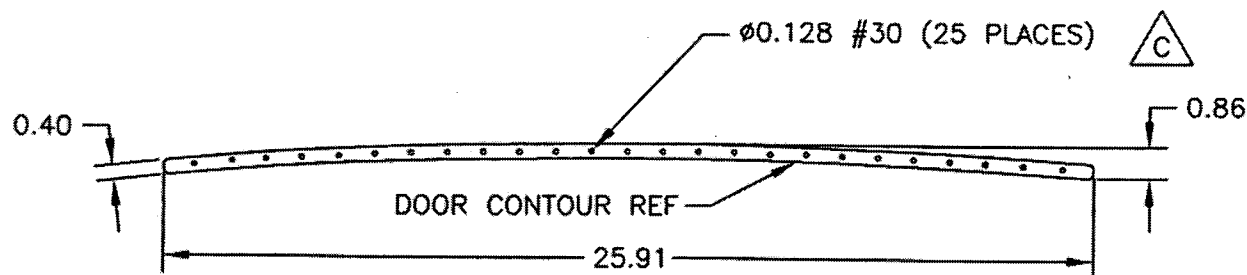




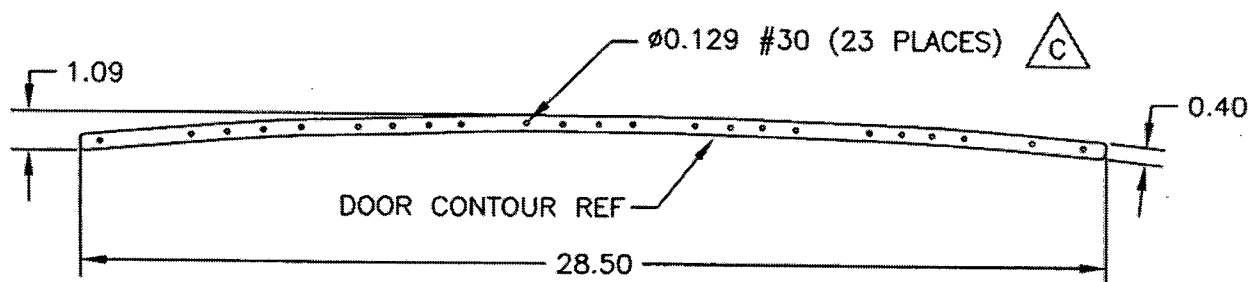
**DART**

RELEASED

05.11.14



**D3144-1 DOUBLER (FOR D412-694-03)**  
REPLACES PREMIER P/N B30-23000-191



**D3144-3 DOUBLER (FOR D412-694-01)**  
REPLACES PREMIER P/N B30-23000-193



**D3144-1/-3 NOTES:**

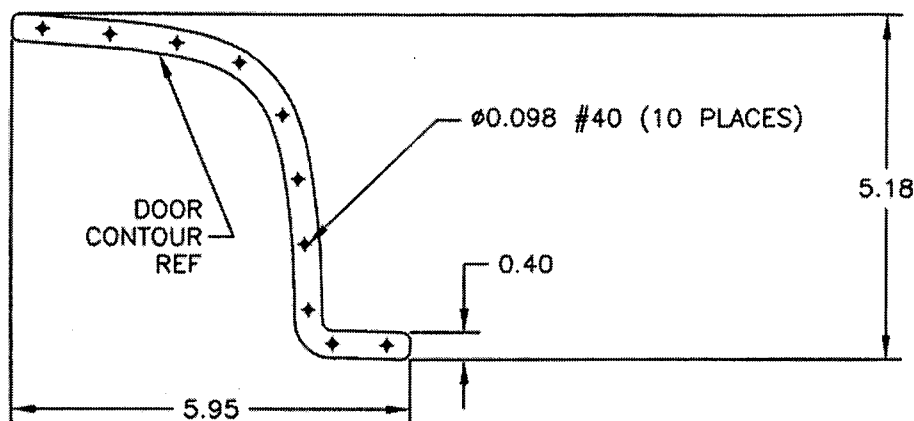
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- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING "D3144-C1.DWG"

110722 MP  
14/01/2014

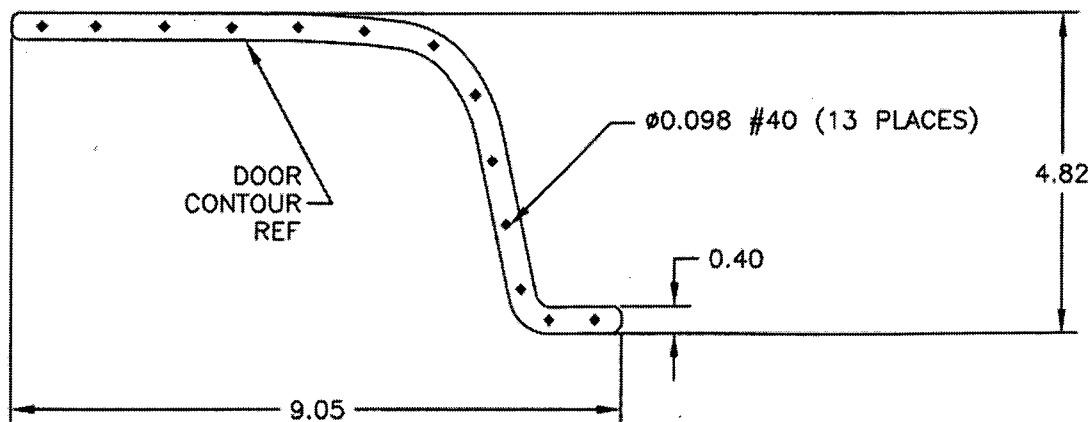
DESIGN	RF	DRAWN BY	RF	DART AEROSPACE LTD
CHECKED		APPROVED		HAWKESBURY, ONTARIO, CANADA
DATE	05.10.19	TITLE	DOUBLER	REV. C
A	02.04.22	NEW ISSUE		
B	04.09.17	ADDED D3144-105/-107/-109/-111/-115/-121/-123; MODIFY D3144-1		
C	05.10.19	ADD D3144-15; 0.129 WAS 0.098		

**DART**

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D3144	REV. C SHEET 2 OF 9
DATE 05.10.19		TITLE DOUBLER	SCALE NTS

**D3144-5 DOUBLER**

REPLACES PREMIER P/N B30-23000-195

**D3144-7 DOUBLER**

REPLACES PREMIER P/N B30-23000-197

**D3144-5/-7 NOTES:**

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING "D3144-C2.DWG"

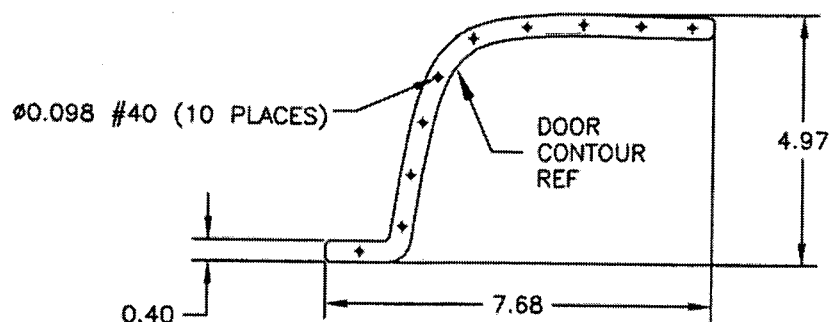
**RELEASED**05-11-14 

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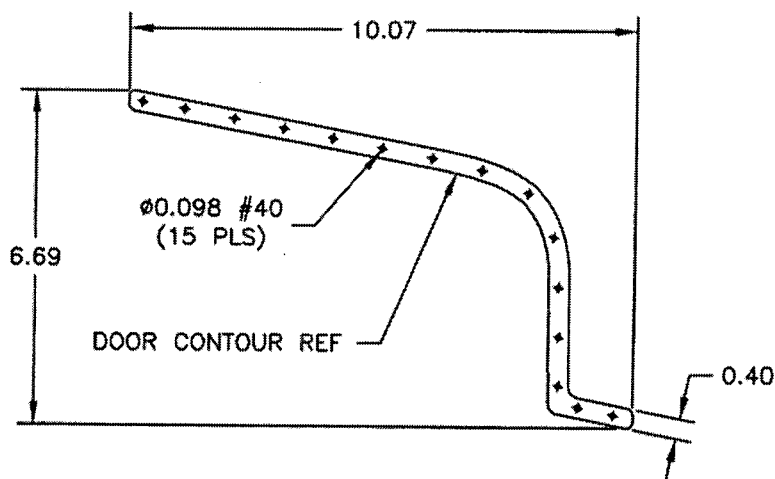
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**DART**

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. D3144	REV. C SHEET 3 OF 9
DATE 05.10.19	TITLE DOUBLER		SCALE NTS

**D3144-9 DOUBLER**

REPLACES PREMIER P/N B30-23000-199

**D3144-11 DOUBLER**

REPLACES PREMIER P/N B30-23000-203

**D3144-9/-11 NOTES:**

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING FILE "D3144-C3.DWG"

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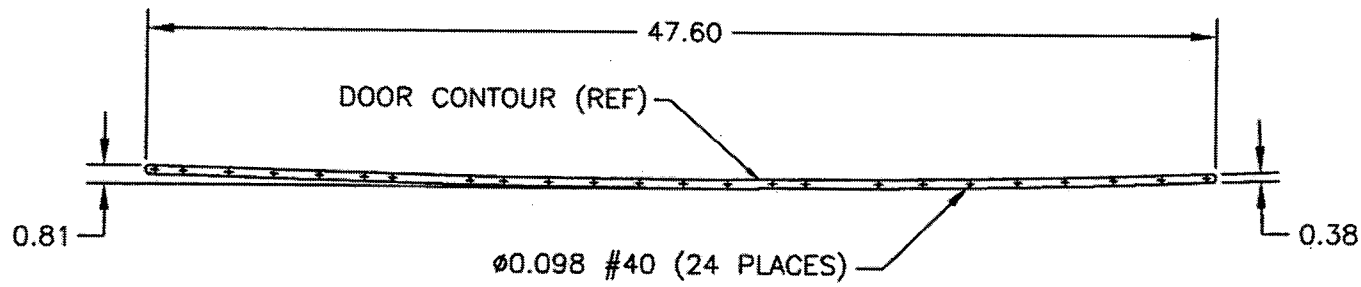
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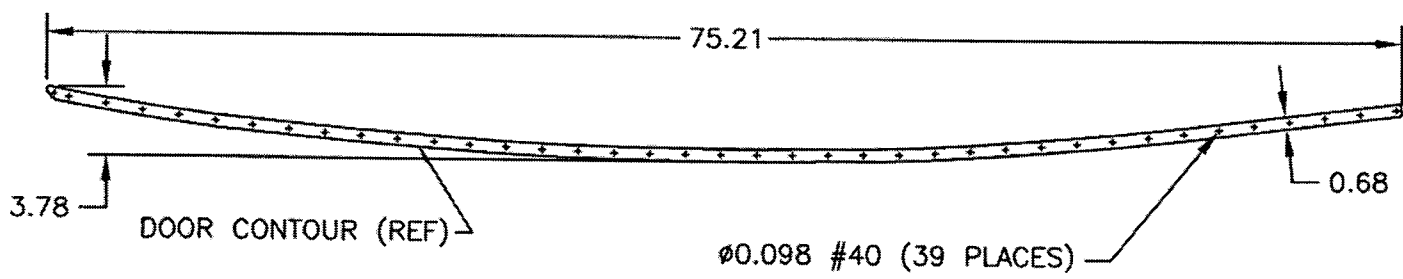


**D3144-15 DOUBLER**  
SCALE 1:8



**D3144-15 NOTES:**

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING FILE "D3144-C4.DWG"



**D3144-13 DOUBLER**  
SCALE 1:10

REPLACES PREMIER P/N B30-23000-211

**D3144-13 NOTES:**

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.020 THICK (REF DART SPEC M2024T3S.020)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING FILE "D3144-C4.DWG"

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DATE	05.10.19	DRAWING NO.	D3144	REV. C
		TITLE	DOUBLER	SHEET 4 OF 9
				SCALE
				NTS

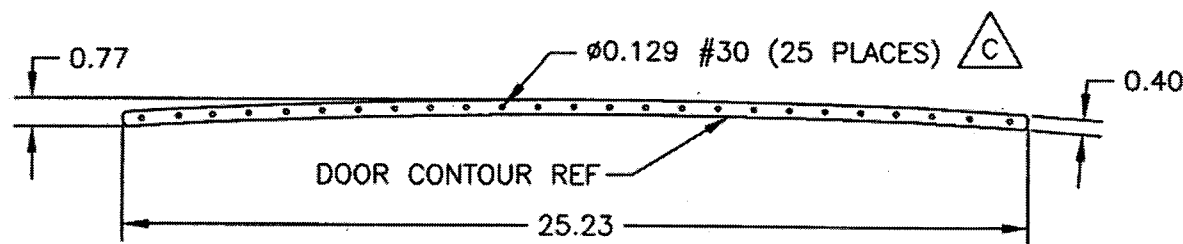
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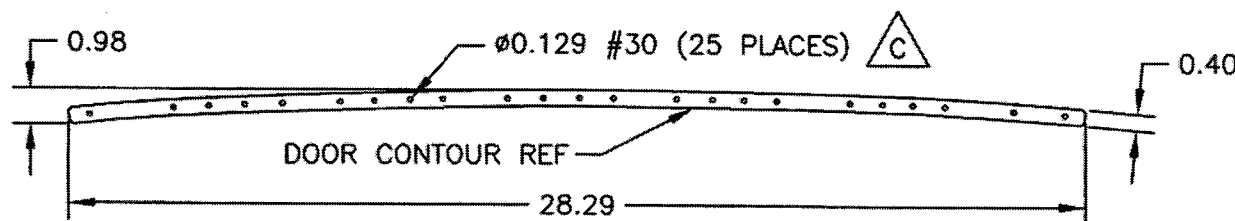
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**D3144-119 DOUBLER (FOR D412-694-04)**



**D3144-123 DOUBLER (D412-694-02)**

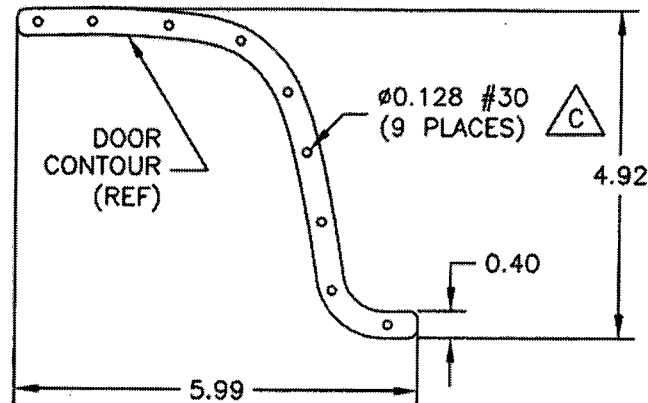
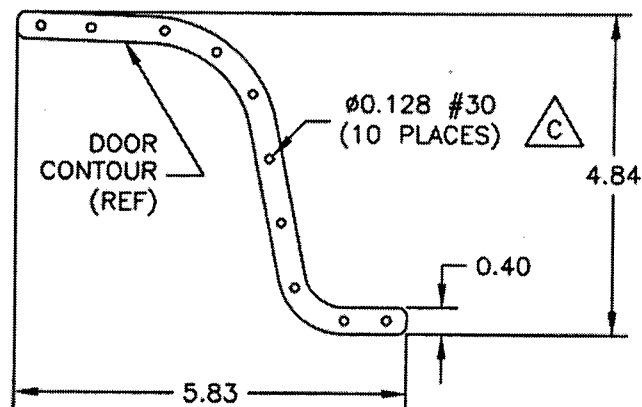
**D3144-119/-123 NOTES:**

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING FILE "D3144-C5.DWG"

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TITLE	DOUBLER	SCALE	NTS	

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DATE 05.10.19	TITLE DOUBLER		SCALE NTS



**D3144-105 DOUBLER (FOR D412-694-03)****D3144-117 DOUBLER (FOR D412-694-04)****RELEASED**05.11.14 *[Signature]***D3144-105/-117 NOTES:**

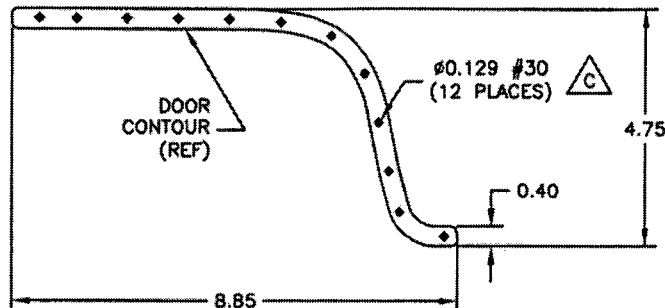
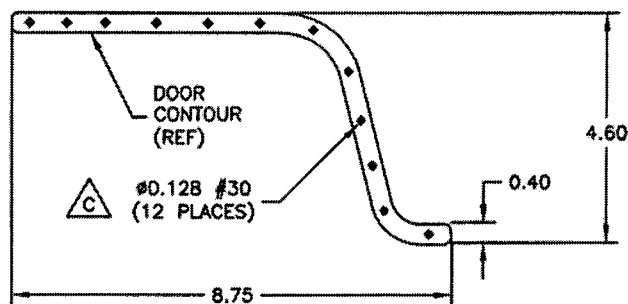

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING "D3144-C6.DWG"

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**D3144-107 DOUBLER (FOR D412-694-03)****D3144-121 DOUBLER (FOR D412-694-04)****RELEASED**05.11.14 **D3144-107/-121 NOTES:**

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING FILE "D3144-C7.DWG"

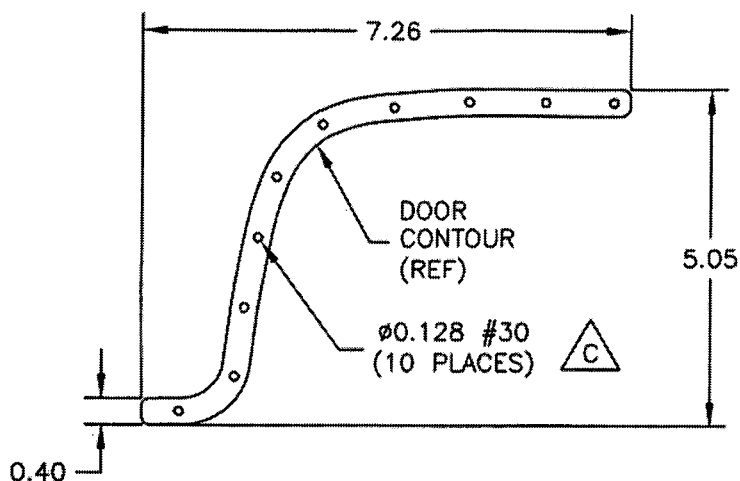
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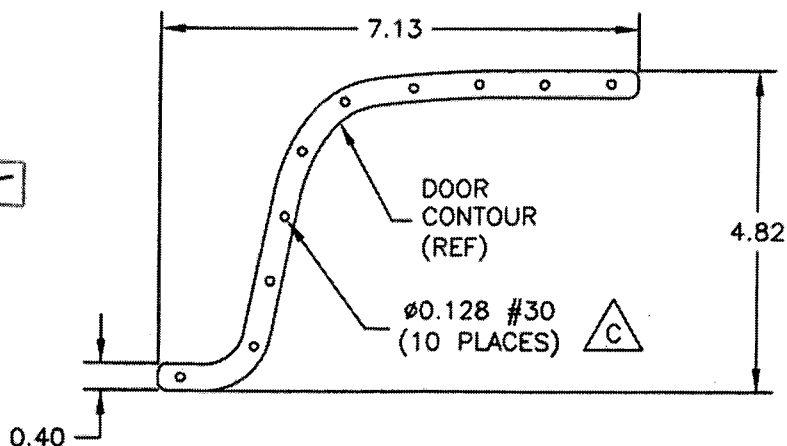
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**D3144-109 DOUBLER (FOR D412-694-01)**

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05.11.14 *[Signature]*



**D3144-115 DOUBLER (FOR D412-694-02)**

**D3144-109/-115 NOTES:**

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING "D3144-C8.DWG"

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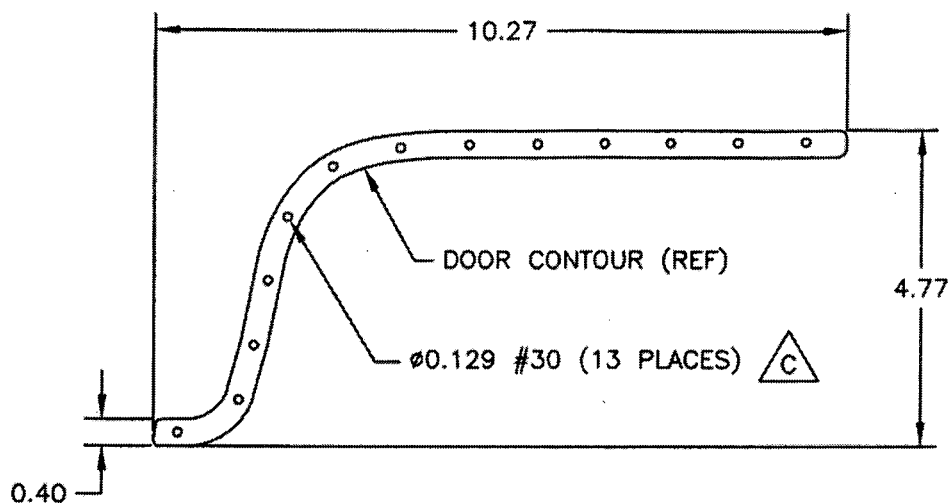
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**D3144-111 DOUBLER (FOR D412-694-01/-02)****D3144-111 NOTES:**

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) MACHINE PER DRAWING "D3144-C9.DWG"

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